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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/790,204	03/02/2004	Donnie Van Savage	10-009	1034

23164 7590 08/03/2009

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EXAMINER	
ALIA, CURTIS A	

ART UNIT	PAPER NUMBER
2416	

MAIL DATE	DELIVERY MODE
08/03/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/790,204	SAVAGE ET AL.	
	Examiner	Art Unit	
	Curtis A. Alia	2416	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 April 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23,26,27 and 30-44* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-23,26,27 and 30-44* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

Applicant's amendment filed 28 April 2009 has been entered. Claims 1, 3, 11, 13, 21, 23, 31 and 33 have been amended. Claims 1-40 are still pending in this application, with claims 1, 11, 21 and 31 being independent.

Response to Arguments

1. Applicant's arguments with respect to claims 1, 11, 21 and 31 have been considered but are moot in view of the new ground(s) of rejection.

Claim Objections

2. Claims 2-5 are objected to because of the following informalities: On line 3 of claim 2, the word "ro uter" should have the space removed. Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 1-6, 11-16, 21-23, 26, 31-36 and 41-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grover et al. (newly cited US 6,377,543) in view of Ogier et al. (newly cited US 2003/0179742).

Regarding claim 1, Grover discloses a method in a router, the method comprising identifying by the router an active path connected to the router and including at least first and second active links each terminated by the router and connecting the router to a first neighboring router that terminates the first and second active links (see column 6, lines 31+, multiple parallel active links connect adjacent nodes together).

Grover does not explicitly teach monitoring by the router prescribed attributes of the active path, the active path providing reachability by the router to a destination via the first neighboring router, the prescribed attributes of the active path based on an aggregation of at least selected ones of the prescribed attributes of the first active link and the second active link, detecting by the router a change in at least one of the prescribed attributes of the connected active path, the change distinct and not changing an availability of the active path and outputting by the router an update message, specifying the change in the active path, to a second neighboring router in response to the detected change and according to a prescribed routing protocol.

However, the above-mentioned claimed limitation is well known in the art, as evidenced by Ogier. In particular, Ogier teaches monitoring by the router prescribed attributes of the active path, the active path providing reachability by the router to a destination via the first neighboring router (see paragraph 60, lines 9+, determining reachability to other nodes and/or a server, paragraph 62, detecting changes in the links connected thereto indicates that the router is monitoring attributes of the paths that pertain to that router), the prescribed attributes of the active path based on an aggregation of at least selected ones of the prescribed attributes of the first active link and the second active link (see paragraph 73, attributes of the path are based on

how many hops are on the path, which is an aggregation of the total links between source and destination), detecting by the router a change in at least one of the prescribed attributes of the connected active path, the change distinct and not changing an availability of the active path (see paragraph 62, detecting changes in cost or state of links connected to the router, thus detecting changes in the state of the path) and outputting by the router an update message, specifying the change in the active path, to a second neighboring router in response to the detected change and according to a prescribed routing protocol (see paragraph 62, disseminating subnet topology and link-state information to the other routers in the subnet (neighboring routers)).

In view of the above, having the method of Grover, then given the well-established teaching of Ogier, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the method of Grover as taught by Ogier, since Ogier stated that mobile networks can benefit from such routing protocols.

Regarding claim 2, Grover does not explicitly teach that the identifying step includes associating the first active link connected to the router to the active path based on determining that the destination is reachable by the first active link, and storing in a topology table an entry that specifies the destination and a corresponding at least one interface identifier for the first active link.

However, the above-mentioned claimed limitation is well known in the art, as evidenced by Ogier. In particular, Ogier teaches that the identifying step includes associating the first active link connected to the router to the active path based on determining that the destination is reachable by the first active link and storing in a topology table an entry that specifies the

destination and a corresponding at least one interface identifier for the first active link (see paragraph 14, source tree determines reachability to a destination node based on information in a stored topology table).

In view of the above, having the method of Grover, then given the well-established teaching of Ogier, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the method of Grover as taught by Ogier, since Ogier stated that mobile networks can benefit from such routing protocols.

Regarding claim 3, Grover discloses that the identifying step further includes associating the second active link connected to the router to the active path based on determining that the destination is concurrently reachable by the first active link and the second active link (see column 6, lines 45+, each node sends statelets and propagates them through all connected links to neighboring nodes to determine the topology, thus it would determine that one link is unable to link to its neighboring node and that the other link is able to link to the neighboring node).

Grover does not explicitly teach determining that the first active link and the second active link are configured for enabling aggregation, aggregating the selected ones of the prescribed attributes of the first active link and the second active link for the respective selected ones of the prescribed attributes of the active path, and storing in the entry in the topology table the prescribed attributes of the active path, and adding a second entry that specifies the destination, the interface identifier for the second active link, and the prescribed attributes of the active path.

However, the above-mentioned claimed limitations are well known in the art, as evidenced by Ogier. In particular, Ogier teaches determining that the first active link and the second active link are configured for enabling aggregation (see paragraph 73, node determines if a link is in the minimum-hop path, and if it is, then it would be enabling aggregation, otherwise it would not be enabling aggregation since it is not a link in the path), aggregating the selected ones of the prescribed attributes of the first active link and the second active link for the respective selected ones of the prescribed attributes of the active path (see paragraphs 76 and 82, routing entries keep track of metrics including cost of links and costs of the paths to determine the minimum hop paths), and storing in the entry in the topology table the prescribed attributes of the active path, and adding a second entry that specifies the destination, the interface identifier for the second active link, and the prescribed attributes of the active path (see paragraph 76, topology table includes link state for each link, cost associated with the link, multiple link metrics are also possibly stored using a vector, paragraph 82, routing entries which show the paths for each destination).

In view of the above, having the method of Grover, then given the well-established teaching of Ogier, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the method of Grover as taught by Ogier, since Ogier stated that mobile networks can benefit from such routing protocols.

Regarding claim 4, Grover does not explicitly teach that the detecting step includes detecting aggregation of the selected ones of the prescribed attributes of the first active link and

the second active link for the respective selected ones of the prescribed attributes of the active path.

However, the above-mentioned claimed limitations are well known in the art, as evidenced by Ogier. In particular, Ogier teaches that the detecting step includes detecting aggregation of the selected ones of the prescribed attributes of the first active link and the second active link for the respective selected ones of the prescribed attributes of the active path (see paragraph 62, detecting attributes of links connected to the router, paragraph 73, path trees are determined based on metrics determined by the protocol, which aggregate the metrics of each link on the path).

In view of the above, having the method of Grover, then given the well-established teaching of Ogier, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the method of Grover as taught by Ogier, since Ogier stated that mobile networks can benefit from such routing protocols.

Regarding claim 5, Ogier discloses that the detecting step includes detecting a change in any one of delay, bandwidth, allowable transmission unit size (MTU), hop count, reliability, and load as the prescribed attributes (see paragraph 62, detecting the reliability (link state/up or down status) of the links).

In view of the above, having the method of Grover, then given the well-established teaching of Ogier, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the method of Grover as taught by Ogier, since Ogier stated that mobile networks can benefit from such routing protocols.

Regarding claim 6, Ogier discloses that the detecting step includes detecting a change in any one of delay, bandwidth, allowable transmission unit size (MTU), hop count, reliability, and load as the prescribed attributes (see paragraph 62, detecting the reliability (link state/up or down status) of the links).

In view of the above, having the method of Grover, then given the well-established teaching of Ogier, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the method of Grover as taught by Ogier, since Ogier stated that mobile networks can benefit from such routing protocols.

Regarding claim 11, Grover discloses a router comprising a plurality of interfaces configured for establishing respective active links, including first and second active links each terminated by a corresponding one of the interfaces and connecting the router with a first neighboring router the terminates the first and second active links (see column 6, lines 31+, router comprises multiple parallel active links connect to adjacent node) and a third active link terminated by a corresponding one of the interfaces and connecting the router with a second neighboring router that terminates the third active link (see figure 1A, another link (link 1 of span 4) linking the router to a second neighboring router that is not the first neighboring router (linked by links 1-3 of span 3, for example).

Grover does not explicitly teach a link associating resource configured for associating an active path connected to the router with at least the first and second active links that are connected to the router, the active path providing reachability by the router to an identifiable

destination via the first neighboring router, a monitoring resource configured for monitoring prescribed attributes of the active path connected to the router, the prescribed attributes of the active path based on an aggregation of at least selected ones of the prescribed attributes of the first active link and the second active link, the monitoring resource detecting a change in at least one of the prescribed attributes of the connected active path, the change distinct from and not changing an availability of the connected active path and a routing protocol resource configured for outputting an update message, specifying the change in the connected active path, to the second neighboring router in response to the detected change and according to a prescribed routing protocol.

However, the above-mentioned claimed limitation is well known in the art, as evidenced by Ogier. In particular, Ogier teaches a link associating resource configured for associating an active path connected to the router with at least the first and second active links that are connected to the router, the active path providing reachability by the router to an identifiable destination via the first neighboring router (see paragraph 60, lines 9+, determining reachability to other nodes and/or a server, paragraph 62, detecting changes in the links connected thereto indicates that the router is monitoring attributes of the paths that pertain to that router), a monitoring resource configured for monitoring prescribed attributes of the active path connected to the router, the prescribed attributes of the active path based on an aggregation of at least selected ones of the prescribed attributes of the first active link and the second active link (see paragraph 60, lines 9+, determining reachability to other nodes and/or a server, paragraph 62, detecting changes in the links connected thereto indicates that the router is monitoring attributes of the paths that pertain to that router), the monitoring resource detecting a change in at least one

of the prescribed attributes of the connected active path, the change distinct from and not changing an availability of the connected active path (see paragraph 62, detecting changes in cost or state of links connected to the router, thus detecting changes in the state of the path) and a routing protocol resource configured for outputting an update message, specifying the change in the connected active path, to the second neighboring router in response to the detected change and according to a prescribed routing protocol (see paragraph 62, disseminating subnet topology and link-state information to the other routers in the subnet (neighboring routers)).

In view of the above, having the apparatus of Grover, then given the well-established teaching of Ogier, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the apparatus of Grover as taught by Ogier, since Ogier stated that mobile networks can benefit from such routing protocols.

Regarding claim 12, Grover does not explicitly teach that the router further comprises a topology table configured for storing entries, each entry identifying a destination and whether the corresponding destination is reachable, wherein the link associating resource is configured for associating the first active link connected to the router to the active path based on determining that the destination is reachable by the first active link, the link associating resource configured for storing in the topology table an entry that specifies the destination and a corresponding at least one interface identifier for the first active link.

However, the above-mentioned claimed limitation is well known in the art, as evidenced by Ogier. In particular, Ogier teaches that the router further comprises a topology table configured for storing entries, each entry identifying a destination and whether the corresponding

destination is reachable, wherein the link associating resource is configured for associating the first active link connected to the router to the active path based on determining that the destination is reachable by the first active link, the link associating resource configured for storing in the topology table an entry that specifies the destination and a corresponding at least one interface identifier for the first active link (see paragraph 14, source tree determines reachability to a destination node based on information in a stored topology table).

In view of the above, having the apparatus of Grover, then given the well-established teaching of Ogier, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the apparatus of Grover as taught by Ogier, since Ogier stated that mobile networks can benefit from such routing protocols.

Regarding claim 13, Grover discloses that the link associating resource is configured for associating the second active link connected to the router to the active path based on determining that the destination is concurrently reachable by the first active link and the second active link (see column 6, lines 45+, each node sends statelets and propagates them through all connected links to neighboring nodes to determine the topology, thus it would determine that one link is unable to link to its neighboring node and that the other link is able to link to the neighboring node).

Grover does not explicitly teach determining that the first active link and the second active link are configured for enabling aggregation, the link associating resource is configured for aggregating at least selected ones of the prescribed attributes of the first active link and the second active link for the respective selected ones of the prescribed attributes of the active path,

the link associating resource is configured for storing in the entry in the topology table the prescribed attributes of the active path, and adding a second entry that specifies the destination, the interface identifier for the second active link, and the prescribed attributes of the active path.

However, the above-mentioned claimed limitations are well known in the art, as evidenced by Ogier. In particular, Ogier teaches determining that the first active link and the second active link are configured for enabling aggregation (see paragraph 73, node determines if a link is in the minimum-hop path, and if it is, then it would be enabling aggregation, otherwise it would not be enabling aggregation since it is not a link in the path), the link associating resource is configured for aggregating the selected ones of the prescribed attributes of the first active link and the second active link for the respective selected ones of the prescribed attributes of the active path (see paragraphs 76 and 82, routing entries keep track of metrics including cost of links and costs of the paths to determine the minimum hop paths), the link associating resource is configured for storing in the entry in the topology table the prescribed attributes of the active path, and adding a second entry that specifies the destination, the interface identifier for the second active link, and the prescribed attributes of the active path (see paragraph 76, topology table includes link state for each link, cost associated with the link, multiple link metrics are also possibly stored using a vector, paragraph 82, routing entries which show the paths for each destination).

In view of the above, having the apparatus of Grover, then given the well-established teaching of Ogier, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the apparatus of Grover as taught by Ogier, since Ogier stated that mobile networks can benefit from such routing protocols.

Regarding claim 14, Grover does not explicitly teach that the monitoring resource is configured for detecting aggregation of the selected ones of the prescribed attributes of the first active link and the second active link for the respective selected ones of the prescribed attributes of the active path.

However, the above-mentioned claimed limitations are well known in the art, as evidenced by Ogier. In particular, Ogier teaches that the monitoring resource is configured for detecting aggregation of the selected ones of the prescribed attributes of the first active link and the second active link for the respective selected ones of the prescribed attributes of the active path (see paragraph 62, detecting attributes of links connected to the router, paragraph 73, path trees are determined based on metrics determined by the protocol, which aggregate the metrics of each link on the path).

In view of the above, having the apparatus of Grover, then given the well-established teaching of Ogier, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the apparatus of Grover as taught by Ogier, since Ogier stated that mobile networks can benefit from such routing protocols.

Regarding claim 15, Ogier discloses that the monitoring resource is configured for detecting a change in any one of delay, bandwidth, allowable transmission unit size, hop count, reliability, and load as the prescribed attributes (see paragraph 62, detecting the reliability (link state/up or down status) of the links).

In view of the above, having the apparatus of Grover, then given the well-established teaching of Ogier, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the apparatus of Grover as taught by Ogier, since Ogier stated that mobile networks can benefit from such routing protocols.

Regarding claim 16, Ogier discloses that the monitoring resource is configured for detecting a change in any one of delay, bandwidth, allowable transmission unit size, hop count, reliability, and load as the prescribed attributes (see paragraph 62, detecting the reliability (link state/up or down status) of the links).

In view of the above, having the apparatus of Grover, then given the well-established teaching of Ogier, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the apparatus of Grover as taught by Ogier, since Ogier stated that mobile networks can benefit from such routing protocols.

Regarding claim 21, Grover discloses a computer readable storage medium having stored thereon sequences of instructions for outputting an update message by a router, the sequences of instructions including instructions for: identifying by the router an active path connected to the router and including at least first and second active links each terminated by the router and connecting the router to a first neighboring router that terminates the first and second active links (see column 6, lines 31+, multiple parallel active links connect adjacent nodes together).

Grover does not explicitly teach monitoring by the router prescribed attributes of the active path, the active path providing reachability by the router to a destination via the first

neighboring router, the prescribed attributes of the active path based on an aggregation of at least selected ones of the prescribed attributes of the first active link and the second active link, detecting by the router a change in at least one of the prescribed attributes of the connected active path, the change distinct from and not changing an availability of the active path; and outputting by the router an update message, specifying the change in the active path, to a second neighboring router in response to the detected change and according to a prescribed routing protocol.

However, the above-mentioned claimed limitation is well known in the art, as evidenced by Ogier. In particular, Ogier teaches monitoring by the router prescribed attributes of the active path, the active path providing reachability by the router to a destination via the first neighboring router (see paragraph 60, lines 9+, determining reachability to other nodes and/or a server, paragraph 62, detecting changes in the links connected thereto indicates that the router is monitoring attributes of the paths that pertain to that router), the prescribed attributes of the active path based on an aggregation of at least selected ones of the prescribed attributes of the first active link and the second active link (see paragraph 73, attributes of the path are based on how many hops are on the path, which is an aggregation of the total links between source and destination), detecting by the router a change in at least one of the prescribed attributes of the connected active path, the change distinct from and not changing an availability of the active path (see paragraph 62, detecting changes in cost or state of links connected to the router, thus detecting changes in the state of the path) and outputting by the router an update message, specifying the change in the active path, to a second neighboring router in response to the detected change and according to a prescribed routing protocol (see paragraph 62, disseminating

subnet topology and link-state information to the other routers in the subnet (neighboring routers)).

In view of the above, having the storage medium of Grover, then given the well-established teaching of Ogier, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the storage medium of Grover as taught by Ogier, since Ogier stated that mobile networks can benefit from such routing protocols.

Regarding claim 22, Grover does not explicitly teach associating the first active link connected to the router to the active path based on determining that the destination is reachable by the first active link and storing in a topology table an entry that specifies the destination and a corresponding at least one interface identifier for the first active link.

However, the above-mentioned claimed limitation is well known in the art, as evidenced by Ogier. In particular, Ogier teaches associating the first active link connected to the router to the active path based on determining that the destination is reachable by the first active link and storing in a topology table an entry that specifies the destination and a corresponding at least one interface identifier for the first active link (see paragraph 14, source tree determines reachability to a destination node based on information in a stored topology table).

In view of the above, having the storage medium of Grover, then given the well-established teaching of Ogier, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the storage medium of Grover as taught by Ogier, since Ogier stated that mobile networks can benefit from such routing protocols.

Regarding claim 23, Grover discloses associating the second active link connected to the router to the active path based on determining that the destination is concurrently reachable by the first active link and the second active link (see column 6, lines 45+, each node sends statelets and propagates them through all connected links to neighboring nodes to determine the topology, thus it would determine that one link is unable to link to its neighboring node and that the other link is able to link to the neighboring node).

Grover does not explicitly teach determining that the first active link and the second active link are configured for enabling aggregation, aggregating the selected ones of the prescribed attributes of the first active link and the second active link for the respective selected ones of the prescribed attributes of the active path and storing in the entry in the topology table the prescribed attributes of the active path, and adding a second entry that specifies the destination, the interface identifier for the second active link, and the prescribed attributes of the active path.

However, the above-mentioned claimed limitations are well known in the art, as evidenced by Ogier. In particular, Ogier teaches determining that the first active link and the second active link are configured for enabling aggregation (see paragraph 73, node determines if a link is in the minimum-hop path, and if it is, then it would be enabling aggregation, otherwise it would not be enabling aggregation since it is not a link in the path), aggregating the selected ones of the prescribed attributes of the first active link and the second active link for the respective selected ones of the prescribed attributes of the active path (see paragraphs 76 and 82, routing entries keep track of metrics including cost of links and costs of the paths to determine the minimum hop paths)and storing in the entry in the topology table the prescribed attributes of the

active path, and adding a second entry that specifies the destination, the interface identifier for the second active link, and the prescribed attributes of the active path (see paragraph 76, topology table includes link state for each link, cost associated with the link, multiple link metrics are also possibly stored using a vector, paragraph 82, routing entries which show the paths for each destination).

In view of the above, having the storage medium of Grover, then given the well-established teaching of Ogier, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the storage medium of Grover as taught by Ogier, since Ogier stated that mobile networks can benefit from such routing protocols.

Regarding claim 26, Ogier discloses that the detecting step includes detecting a change in any one of delay, bandwidth, allowable transmission unit size, hop count, reliability, and load as the prescribed attributes (see paragraph 62, detecting the reliability (link state/up or down status) of the links).

In view of the above, having the storage medium of Grover, then given the well-established teaching of Ogier, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the storage medium of Grover as taught by Ogier, since Ogier stated that mobile networks can benefit from such routing protocols.

Regarding claim 31, Grover discloses a router comprising means for identifying an active path connected to the router and including at least first and second active links each terminated by the router and connecting the router to a first neighboring router that terminates the first and

second links (see column 6, lines 31+, multiple parallel active links connect adjacent nodes together).

Grover does not explicitly teach means for monitoring prescribed attributes of the active path, the active path providing reachability by the router to a destination via the first neighboring router, the prescribed attributes of the active path based on an aggregation of at least selected ones of the prescribed attributes of the first active link and the second active link;

means for detecting a change in at least one of the prescribed attributes of the connected active path, the change distinct from and not changing an availability of the active path; and

means for outputting an update message, specifying the change in the active path, to a second neighboring router in response to the detected change and according to a prescribed routing protocol.

However, the above-mentioned claimed limitation is well known in the art, as evidenced by Ogier. In particular, Ogier teaches means for monitoring prescribed attributes of the active path, the active path providing reachability by the router to a destination via the first neighboring router (see paragraph 60, lines 9+, determining reachability to other nodes and/or a server, paragraph 62, detecting changes in the links connected thereto indicates that the router is monitoring attributes of the paths that pertain to that router), the prescribed attributes of the active path based on an aggregation of at least selected ones of the prescribed attributes of the first active link and the second active link (see paragraph 73, attributes of the path are based on how many hops are on the path, which is an aggregation of the total links between source and destination), means for detecting a change in at least one of the prescribed attributes of the connected active path, the change distinct from and not changing an availability of the active

path (see paragraph 62, detecting changes in cost or state of links connected to the router, thus detecting changes in the state of the path) and means for outputting an update message, specifying the change in the active path, to a second neighboring router in response to the detected change and according to a prescribed routing protocol (see paragraph 62, disseminating subnet topology and link-state information to the other routers in the subnet (neighboring routers)).

In view of the above, having the router of Grover, then given the well-established teaching of Ogier, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the router of Grover as taught by Ogier, since Ogier stated that mobile networks can benefit from such routing protocols.

Regarding claim 32, Grover does not explicitly teach associating the first active link connected to the router to the active path based on determining that the destination is reachable by the first active link and storing in a topology table an entry that specifies the destination and a corresponding at least one interface identifier for the first active link.

However, the above-mentioned claimed limitation is well known in the art, as evidenced by Ogier. In particular, Ogier teaches associating the first active link connected to the router to the active path based on determining that the destination is reachable by the first active link and storing in a topology table an entry that specifies the destination and a corresponding at least one interface identifier for the first active link (see paragraph 14, source tree determines reachability to a destination node based on information in a stored topology table).

In view of the above, having the router of Grover, then given the well-established teaching of Ogier, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the router of Grover as taught by Ogier, since Ogier stated that mobile networks can benefit from such routing protocols.

Regarding claim 33, Grover discloses associating the second active link connected to the router to the active path based on determining that the destination is concurrently reachable by the first active link and the second active link (see column 6, lines 45+, each node sends statelets and propagates them through all connected links to neighboring nodes to determine the topology, thus it would determine that one link is unable to link to its neighboring node and that the other link is able to link to the neighboring node).

Grover does not explicitly teach determining that the first active link and the second active link are configured for enabling aggregation, aggregating at least selected ones of the prescribed attributes of the first active link and the second active link for the respective selected ones of the prescribed attributes of the active path and storing in the entry in the topology table the prescribed attributes of the active path, and adding a second entry that specifies the destination, the interface identifier for the second active link, and the prescribed attributes of the active path.

However, the above-mentioned claimed limitations are well known in the art, as evidenced by Ogier. In particular, Ogier teaches determining that the first active link and the second active link are configured for enabling aggregation (see paragraph 73, node determines if a link is in the minimum-hop path, and if it is, then it would be enabling aggregation, otherwise it

would not be enabling aggregation since it is not a link in the path), aggregating the selected ones of the prescribed attributes of the first active link and the second active link for the respective selected ones of the prescribed attributes of the active path (see paragraphs 76 and 82, routing entries keep track of metrics including cost of links and costs of the paths to determine the minimum hop paths) and storing in the entry in the topology table the prescribed attributes of the active path , and adding a second entry that specifies the destination, the interface identifier for the second active link, and the prescribed attributes of the active path (see paragraph 76, topology table includes link state for each link, cost associated with the link, multiple link metrics are also possibly stored using a vector, paragraph 82, routing entries which show the paths for each destination).

In view of the above, having the router of Grover, then given the well-established teaching of Ogier, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the router of Grover as taught by Ogier, since Ogier stated that mobile networks can benefit from such routing protocols.

Regarding claim 34, Grover does not explicitly teach that the detecting means is configured for detecting aggregation of the selected ones of the prescribed attributes of the first active link and the second active link for the respective selected ones of the prescribed attributes of the active path.

However, the above-mentioned claimed limitations are well known in the art, as evidenced by Ogier. In particular, Ogier teaches that the detecting means is configured for detecting aggregation of the selected ones of the prescribed attributes of the first active link and

the second active link for the respective selected ones of the prescribed attributes of the active path (see paragraph 62, detecting attributes of links connected to the router, paragraph 73, path trees are determined based on metrics determined by the protocol, which aggregate the metrics of each link on the path).

In view of the above, having the router of Grover, then given the well-established teaching of Ogier, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the router of Grover as taught by Ogier, since Ogier stated that mobile networks can benefit from such routing protocols.

Regarding claim 35, Ogier discloses that the detecting means is configured for detecting a change in any one of delay, bandwidth, allowable transmission unit size, hop count, reliability, and load as the prescribed attributes (see paragraph 62, detecting the reliability (link state/up or down status) of the links).

In view of the above, having the router of Grover, then given the well-established teaching of Ogier, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the router of Grover as taught by Ogier, since Ogier stated that mobile networks can benefit from such routing protocols.

Regarding claim 36, Ogier discloses that the detecting means is configured for detecting a change in any one of delay, bandwidth, allowable transmission unit size, hop count, reliability, and load as the prescribed attributes (see paragraph 62, detecting the reliability (link state/up or down status) of the links).

In view of the above, having the router of Grover, then given the well-established teaching of Ogier, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the router of Grover as taught by Ogier, since Ogier stated that mobile networks can benefit from such routing protocols.

Regarding claims 41-44, Grover does not explicitly teach that the detecting of the change in at least one of the prescribed attributes of the active path is based on a detecting a change in a link attribute in any one of the first active link or the second active link, the change in the link attribute distinct from availability of the corresponding active link.

However, the above-mentioned claimed limitation is well known in the art, as evidenced by Ogier. In particular, Ogier teaches that the detecting of the change in at least one of the prescribed attributes of the active path is based on a detecting a change in a link attribute in any one of the first active link or the second active link, the change in the link attribute distinct from availability of the corresponding active link (see paragraph 62, detecting changes in cost in the links, paragraph 73, other metrics can be used in determinations of link usage).

In view of the above, having the router of Grover, then given the well-established teaching of Ogier, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the router of Grover as taught by Ogier, since Ogier stated that mobile networks can benefit from such routing protocols.

5. Claims 10, 20, 30 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grover in view of Ogier as applied to claims 1, 11, 21 and 31 above, and further in view of Phaltankar (newly cited US 2004/0076160).

Regarding claim 10, Grover and Ogier do not explicitly teach that the prescribed routing protocol is EIGRP.

However, the above-mentioned claimed limitation is well known in the art, as evidenced by Phaltankar. In particular, Phaltankar teaches that the prescribed routing protocol is EIGRP (see paragraph 42, EIGRP is used as the routing protocol of the network to select the best links for transmission).

In view of the above, having the method of Grover and Ogier, then given the well-established teaching of Phaltankar, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the method of Grover and Ogier as taught by Phaltankar, since Phaltankar stated in paragraph 19 that delay through the network can be minimized.

Regarding claim 20, Grover and Ogier do not explicitly teach that the routing protocol resource is configured for outputting the update message according to Enhanced Interior Gateway Routing Protocol (EIGRP) protocol as the prescribed routing protocol.

However, the above-mentioned claimed limitation is well known in the art, as evidenced by Phaltankar. In particular, Phaltankar teaches that the routing protocol resource is configured for outputting the update message according to Enhanced Interior Gateway Routing Protocol

(EIGRP) protocol as the prescribed routing protocol (see paragraph 42, EIGRP is used as the routing protocol of the network to select the best links for transmission).

In view of the above, having the router of Grover and Ogier, then given the well-established teaching of Phaltankar, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the router of Grover and Ogier as taught by Phaltankar, since Phaltankar stated in paragraph 19 that delay through the network can be minimized.

Regarding claim 30, Grover and Ogier do not explicitly teach that the prescribed routing protocol is EIGRP.

However, the above-mentioned claimed limitation is well known in the art, as evidenced by Phaltankar. In particular, Phaltankar teaches that the prescribed routing protocol is EIGRP (see paragraph 42, EIGRP is used as the routing protocol of the network to select the best links for transmission).

In view of the above, having the storage medium of Grover and Ogier, then given the well-established teaching of Phaltankar, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the storage medium of Grover and Ogier as taught by Phaltankar, since Phaltankar stated in paragraph 19 that delay through the network can be minimized.

Regarding claim 40, Grover and Ogier do not explicitly teach that the prescribed routing protocol is EIGRP.

However, the above-mentioned claimed limitation is well known in the art, as evidenced by Phaltankar. In particular, Phaltankar teaches that the prescribed routing protocol is EIGRP (see paragraph 42, EIGRP is used as the routing protocol of the network to select the best links for transmission).

In view of the above, having the router of Grover and Ogier, then given the well-established teaching of Phaltankar, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the router of Grover and Ogier as taught by Phaltankar, since Phaltankar stated in paragraph 19 that delay through the network can be minimized.

6. Claims 7-8, 17-18, 27 and 37-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grover in view of Ogier as applied to claims 6, 16, 26 and 36 above, and further in view of Doviak et al. (previously cited US 6,198,920).

Regarding claim 7, Grover and Ogier do not explicitly teach that the detecting step further includes obtaining information associated with at least one of the prescribed attributes of the first active link from an executable driver resource configured for controlling an interface configured for establishing the first active link.

However, the above-mentioned claimed limitation is well known in the art, as evidenced by Doviak. In particular, Doviak teaches that the detecting step further includes obtaining information associated with at least one of the prescribed attributes of the first active link from an executable driver resource configured for controlling an interface configured for establishing

the first active link (see column 33, lines 58-66, an interface driver is what connects the router to the network, and all information, including various metrics, well be sent on a preferred path using these network interfaces).

In view of the above, having the method of Grover and Ogier, then given the well-established teaching of Doviak, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the method of Grover and Ogier as taught by Doviak, since Doviak stated in column 4, lines 45-52 that it provides flexibility in use of portable devices.

Regarding claim 8, Ogier discloses that metrics available to the router include bandwidth, reliability, load, and allowable transmission unit size (see paragraph 62, detecting the information about the links includes detecting a cost which is associated with that link, paragraph 528, the cost being a metric related to bandwidth and/or reliability).

Regarding claim 17, while Ogier discloses obtaining information associated with the prescribed attributes of the first active link, Grover and Ogier do not explicitly teach that the monitoring resource is configured for obtaining information associated with at least one of the prescribed attributes of the first active link from an executable driver resource configured for controlling at least one of the interfaces.

However, the above-mentioned claimed limitation is well known in the art, as evidenced by Doviak. In particular, Doviak teaches that the monitoring resource is configured for obtaining information associated with at least one of the prescribed attributes of the first active link from

an executable driver resource configured for controlling at least one of the interfaces (see column 33, lines 58-66, an interface driver is what connects the router to the network, and all information, including various metrics, well be sent on a preferred path using these network interfaces).

In view of the above, having the method of Grover and Ogier, then given the well-established teaching of Doviak, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the method of Grover and Ogier as taught by Doviak, since Doviak stated in column 4, lines 45-52 that it provides flexibility in use of portable devices.

Regarding claim 18, Ogier discloses that the information includes any one of the bandwidth, the reliability, the load and the allowable transmission unit size (see paragraph 62, detecting the information about the links includes detecting a cost which is associated with that link, paragraph 528, the cost being a metric related to bandwidth and/or reliability).

Regarding claim 27, while Ogier discloses obtaining information associated with the prescribed attributes of the first active link, Grover and Ogier do not explicitly teach that the detecting step further includes obtaining information associated with at least one of the prescribed attributes of the first active link from an executable driver resource configured for controlling an interface configured for establishing the first active link.

However, the above-mentioned claimed limitation is well known in the art, as evidenced by Doviak. In particular, Doviak teaches that the detecting step further includes obtaining

information associated with at least one of the prescribed attributes of the first active link from an executable driver resource configured for controlling an interface configured for establishing the first active link (see column 33, lines 58-66, an interface driver is what connects the router to the network, and all information, including various metrics, well be sent on a preferred path using these network interfaces).

In view of the above, having the method of Grover and Ogier, then given the well-established teaching of Doviak, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the method of Grover and Ogier as taught by Doviak, since Doviak stated in column 4, lines 45-52 that it provides flexibility in use of portable devices.

Regarding claim 37, while Ogier discloses obtaining information associated with the prescribed attributes of the first active link, Grover and Ogier do not explicitly teach that the detecting means is configured for obtaining information associated with at least one of the prescribed attributes of the first active link from an executable driver resource configured for controlling an interface configured for establishing the first active link.

However, the above-mentioned claimed limitation is well known in the art, as evidenced by Doviak. In particular, Doviak teaches that the detecting means is configured for obtaining information associated with at least one of the prescribed attributes of the first active link from an executable driver resource configured for controlling an interface configured for establishing the first active link (see column 33, lines 58-66, an interface driver is what connects the router to

the network, and all information, including various metrics, well be sent on a preferred path using these network interfaces).

In view of the above, having the method of Grover and Ogier, then given the well-established teaching of Doviak, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the method of Grover and Ogier as taught by Doviak, since Doviak stated in column 4, lines 45-52 that it provides flexibility in use of portable devices.

Regarding claim 38, Ogier discloses that the information includes any one of the bandwidth, the reliability, the load and the allowable transmission unit size (see paragraph 62, detecting the information about the links includes detecting a cost which is associated with that link, paragraph 528, the cost being a metric related to bandwidth and/or reliability).

7. Claims 9, 19, and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grover in view of Ogier as applied to claims 6, 16, 26 and 36, and further in view of Graf et al. (previously cited US 7,016,355).

Regarding claim 9, Grover and Ogier do not explicitly teach that the detecting step includes determining delay based on measuring a time between transmitting a data packet onto the one link and receiving a response to the data packet on the one link.

However, the above-mentioned claimed limitation is well known in the art, as evidenced by Graf. In particular, Graf teaches the detecting step includes determining delay based on

measuring a time between transmitting a data packet onto the one link and receiving a response to the data packet on the one link (see abstract, propagation delay can be measured on a packet switched network by calculating the time elapsed between sending the packet and receiving an echo packet acknowledging receipt of that packet).

In view of the above, having the method of Grover and Ogier, then given the well-established teaching of Graf, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the method of Grover and Ogier as taught by Graf, since Graf stated that propagation delay must be dynamically determined.

Regarding claim 19, Grover and Ogier do not explicitly teach a delay measurement resource configured for determining the delay based on measuring a time between transmitting a data packet onto the one link and receiving a response to the data packet via the one link, the delay measurement resource reporting the determined delay to the monitoring resource.

However, the above-mentioned claimed limitation is well known in the art, as evidenced by Graf. In particular, Graf teaches a delay measurement resource configured for determining the delay based on measuring a time between transmitting a data packet onto the one link and receiving a response to the data packet via the one link, the delay measurement resource reporting the determined delay to the monitoring resource (see abstract, propagation delay can be measured on a packet switched network by calculating the time elapsed between sending the packet and receiving an echo packet acknowledging receipt of that packet).

In view of the above, having the method of Grover and Ogier, then given the well-established teaching of Graf, it would have been obvious to a person having ordinary skill in the

art at the time of the invention to modify the method of Grover and Ogier as taught by Graf, since Graf stated that propagation delay must be dynamically determined.

Regarding claim 39, Grover and Ogier do not explicitly teach that the detecting means is configured for determining the delay based on measuring a time between transmitting a data packet onto the one link and receiving a response to the data packet via the one link.

However, the above-mentioned claimed limitation is well known in the art, as evidenced by Graf. In particular, Graf teaches that the detecting means is configured for determining the delay based on measuring a time between transmitting a data packet onto the one link and receiving a response to the data packet via the one link (see abstract, propagation delay can be measured on a packet switched network by calculating the time elapsed between sending the packet and receiving an echo packet acknowledging receipt of that packet).

In view of the above, having the method of Grover and Ogier, then given the well-established teaching of Graf, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the method of Grover and Ogier as taught by Graf, since Graf stated that propagation delay must be dynamically determined.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Curtis A. Alia whose telephone number is (571) 270-3116. The examiner can normally be reached on Monday through Friday, 9am-6pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Aung S. Moe can be reached on (571) 272-7314. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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7/29/2009

CAA